

1. A translator comprising:

an IP packet translator responsive to reception of the second IP packet by said receiver, for generating a first IP packet containing data included in the second IP packet, and responsive to reception of the first IP packet by said receiver, for generating a second IP packet containing data included in the first IP packet;

a storage which stores a plurality of addresses assigned to respective devices of interest using the first internet protocol; and

2. A translator for coupling a first IP network in which a plurality of devices of interest are assigned first IP addresses such that the same first IP address is not assigned to two or more devices of interest, and a second IP network in which a plurality of devices of interest are

a header translator which translates a header  
5 between a first IP packet used in said first IP network and  
a second IP packet used in said second IP network in order  
to exchange information between said first IP network and  
said second IP network; and

wherein, for a header translation performed to send information from said second IP network to said first IP network, any of the plurality of first IP addresses stored in said storage is assigned to a second IP address stored in a source storing field included in an IP header of said second IP packet, and the assigned first IP address is stored in a source storing field included in an IP header of said first IP packet; and

for a header translation performed to send  
20 information from said first IP network to said second IP  
network, said second IP address stored in the source  
storing field included in the IP header of said second IP  
packet is assigned to a first IP address stored in a  
destination storing field included in the IP header of said  
25 first IP packet, and the assigned second IP address is  
stored in a destination storing field included in the IP  
header of said second IP packet.

3. A network system comprising:

a translator comprising:

receiving means for receiving each of a first IP  
packet used in accordance with a first internet protocol  
5 and a second IP packet used in accordance with a second  
internet protocol from a network;

packet translating means responsive to receiving  
of the second IP packet by said receiving means, for  
generating a first IP packet containing data included in  
10 said second IP packet, and responsive to receiving of the  
first IP packet by said receiving means, for generating a  
second IP packet containing data included in said first IP  
packet; and

transmitting means for transmitting each of the  
15 first IP packet and the second IP packet generated by said  
IP packet translating means to said networks; and

a host using said first packet passing through  
said network,

wherein said host comprises:

20 storage means for storing a plurality of first IP  
addresses assigned to respective devices of interest using  
the first IP packet;

address translating means operative when the  
first packet including data to be transmitted to a  
25 destination host using the second IP packet is sent to said  
network for assigning any of the plurality of first IP  
addresses stored in said storage means to a second address  
assigned to said destination host within second IP

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addresses assigned to respective devices of interest using the second IP packet and for storing the assigned first address in a destination storing field of the first IP packet; and

5                means for sending address translation information including at least said second IP address assigned to said destination host and said first IP address assigned to said second IP address, and

                 said translator comprises:

10                storage means for storing the address translation information sent from said host; and

                 address translating means operative when said packet translating means generates said second IP packet based on said first IP packet sent from said host for  
15                storing the second IP address included in said address translation information stored in said storage means in a destination storing field of said second IP packet.

4.                A network system according to claim 3, comprising a plurality of the hosts, and

20                each of said plurality of hosts including means for mutually exchanging the address translation information stored therein and the address translation information stored in other hosts such that the contents of the address translation information are identical over said hosts.

25                5.                A network system comprising:

                 a translator for mutually coupling a first IP network in which a plurality of devices of interest are assigned first IP addresses such that the same first IP

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address is not assigned to two or more devices of interest,  
and a second IP network in which a plurality of devices of  
interest are assigned second IP addresses such that the  
same second IP address is not assigned to two or more  
5 devices of interest; and

a first device of interest which is one of the  
plurality of devices of interest existing in said first IP  
network,

said first device of interest comprising:  
10 storage means for storing a plurality of first IP  
addresses different from each other;

address translating means operative when a first  
IP packet including data to be transmitted to a second  
device of interest to said first network, said second  
15 device of interest being one of a plurality of devices of  
interest existing in said second IP network, for assigning  
any of the plurality of first IP addresses stored in said  
storage means to a second IP address assigned to said  
second device of interest, and for storing the assigned  
20 first IP address to a destination storing field included in  
an IP header of said first IP packet; and

means for sending address translation information  
including at least said second IP address assigned to said  
second device of interest and said first IP address  
25 assigned to said second IP address, and

said translator comprising:  
storage means for storing the address translation  
information sent from said first device of interest; and

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8. A method of coupling IP networks for mutually

when initiating a communication between a first device of interest which is one of a plurality of devices of interest existing in said first IP network and a second device of interest which is one of a plurality of devices of interest existing in said second IP network, assigning any of a plurality of previously prepared first IP addresses to a second IP address assigned to said second device of interest;

releasing said assigned first IP address after termination of the communication.

7. A computer-readable recording medium storing a program for performing an internet protocol (IP) networking translation, said program for translation comprising:

program code means for receiving a first internet  
5 protocol packet in accordance with a first internet protocol and a second IP packet used in accordance with a second internet protocol from a network;

program code means for, in response to reception of the second IP packet by execution of said receiving code  
10 means, generating a first IP packet containing data included in the second IP packet, and in response to reception of the first IP packet by execution of said receiving code means, generating a second IP packet containing data included in the first IP packet;

15 program code means for transmitting each of the first IP packet and the second IP packet generated to said network;

program code means for storing a plurality of addresses assigned to respective devices of interest using  
20 the first internet protocol; and

program code means for setting any of a plurality of first IP addresses stored by executing of storing program code in a source storing field of said first IP packet when generating said first IP packet from the  
25 received second IP packet.

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